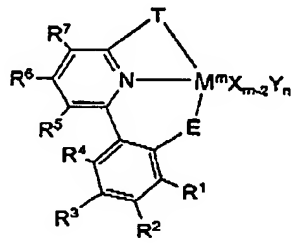
AMENDMENTS TO THE CLAIMS

Please amend the claims as follows (deletions were stricken through; additions were underlined):

1. (Withdrawn) A catalyst of formula:



wherein:

R^1–R^7 are each independently -H, -halo, -NO_2, -CN, -(C_1-C_{30})hydrocarbyl, -O(C_1-C_{30})hydrocarbyl, -N((C_1-C_{30})hydrocarbyl)$_2$, -Si((C_1-C_{30})hydrocarbyl)$_3$, -(C_1-C_{30})heterohydrocarbyl, -aryl, or -heteroaryl, each of which may be unsubstituted or substituted with one or more -R^8 groups; or two R^1–R^7 may be joined to form cyclic group;

R^8 is -halo, -(C_1-C_{30})hydrocarbyl, -O(C_1-C_{30})hydrocarbyl, -NO_2, -CN, -Si((C_1-C_{30})hydrocarbyl)$_3$, -N((C_1-C_{30})hydrocarbyl)$_2$, -(C_1-C_{30})heterohydrocarbyl, -aryl, or -heteroaryl;

T is –CR^9R^{10}– wherein $R^9$and R^{10} are defined as for R^1 above;

E is a Group 16 element;

M is a metal selected from the group consisting of metallic Group 3-Group 10 elements and the Lanthanide series elements;

m is the oxidation state of the M;

X is R^1 excluding -H, wherein X is bonded to M;

Y is neutral ligand datively bound to M; and

n is an integer ranging from 0 to 5.

2. (Withdrawn) The catalyst of claim 1, wherein M is titanium, zirconium or hafnium.

3. (Withdrawn) The catalyst of claim 2, wherein X is halide, unsubstituted

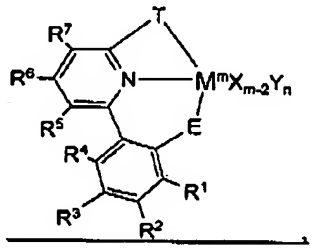
-(C_1-C_{30})hydrocarbyl or substituted -(C_1-C_{30})hydrocarbyl.

4. (Withdrawn) The catalyst of claim 3, wherein X is benzyl.

5. (Withdrawn) The catalyst of claim 2, wherein E is -O-.

6. (Currently Amended) An olefin polymerization catalyst system prepared from ~~the~~ a catalyst ~~of claim 1~~ and an activator,

wherein the catalyst is of formula:



wherein:

R^1–R^7 are each independently -H, -halo, -NO_2, -CN, -(C_1-C_{30})hydrocarbyl, -O(C_1-C_{30})hydrocarbyl, -N((C_1-C_{30})hydrocarbyl)$_2$, -Si((C_1-C_{30})hydrocarbyl)$_3$, -(C_1-C_{30})heterohydrocarbyl, -aryl, or -heteroaryl, each of which is unsubstituted or substituted with one or more -R^8 groups; or two R^1–R^7 is joined to form a cyclic group;

R^8 is -halo, -(C_1-C_{30})hydrocarbyl, -O(C_1-C_{30})hydrocarbyl, -NO_2, -CN, -Si((C_1-C_{30})hydrocarbyl)$_3$, -N((C_1-C_{30})hydrocarbyl)$_2$, -(C_1-C_{30})heterohydrocarbyl, -aryl, or -heteroaryl;

T is –CR^9R^{10}– wherein $R^9$and R^{10} are defined as for R^1 above;

E is a Group 16 element;

M is a metal selected from the group consisting of metallic Group 3-Group 10 elements and the Lanthanide series elements;

m is the oxidation state of the M;

X is R^1 excluding -H, wherein X is bonded to M;

Y is a neutral ligand datively bound to M; and

n is an integer ranging from 0 to 5.

7. (Currently Amended) The olefin polymerization catalyst of claim 6, wherein the activator is selected from the group consisting of trimethylaluminum, triethylaluminum, tri-isobutylaluminum, tri-n-octylaluminum, methylaluminum dichloride, ethylaluminum dichloride, dimethylaluminum chloride, diethylaluminum chloride, aluminoxanes, ~~tetrakis(pentafluorophenyl)borate,~~ dimethylphenylammonium tetra(pentafluorophenyl)borate, trityl tetra(pentafluorophenyl)borate, tris(pentafluorophenyl)boron, tris(pentabromophenyl)boron, and mixtures thereof.

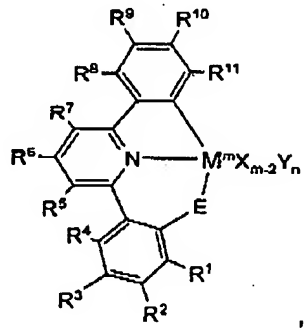
8. (Currently Amended) A method for polymerizing an olefin comprising contacting an olefin with the olefin polymerization catalyst system of claim ~~7~~ 6.

9. (Original) The method of claim 8, wherein the olefin is ethylene, propylene, 1-butene, 2-pentene, 1-hexene, 1-octene, styrene, 1,3-butadiene, norbornene, each of which may be substituted or unsubstituted, or mixtures thereof.

10. (Original) The method of claim 9, wherein the olefin is ethylene or 1-hexene.

11. (Withdrawn) The method of claim 8, wherein at least one of R^1-R^7 and R^9-R^{10} is selected from the group consisting of -C(halide)$_3$, CH(halide)$_2$ and -CH_2(halide).

12. (Withdrawn) A catalyst of formula:



wherein

R^1–R^{11} each independently -H, -halo, -NO_2, -CN, -(C_1-C_{30})hydrocarbyl, -O(C_1-C_{30})hydrocarbyl, -N((C_1-C_{30})hydrocarbyl)$_2$, -Si((C_1-C_{30})hydrocarbyl)$_3$,

-(C_1-C_{30})heterohydrocarbyl, -aryl, -heteroaryl, each of which may be unsubstituted or substituted with one or more -R^{12} groups; or two R^1–R^7 may be joined to form a cyclic group;

each R^{12} is independently -halo, -NO_2, -CN, -(C_1-C_{30})hydrocarbyl, -O(C_1-C_{30})hydrocarbyl, -N((C_1-C_{30})hydrocarbyl)$_2$, -Si((C_1-C_{30})hydrocarbyl)$_3$, -(C_1-C_{30})heterohydrocarbyl, -aryl, or -heteroaryl;

E is a Group 16 element;

M is a metal selected from the group consisting of metallic Group 3 - Group 10 elements and the Lanthanide series elements;

m is the oxidation state of M;

X is R^1 excluding -H, wherein X is bonded to M;

Y is neutral ligand datively bound to M; and

n is an integer ranging from 0 to 5.

13. (Withdrawn) The catalyst of claim 12, wherein M is titanium, zirconium or hafnium.

14. (Withdrawn) The catalyst of claim 13, wherein M is Ti or Zr; E is -O-; m is 4; n is 0 or 1; and X is halo, -(C_1-C_{30})hydrocarbyl or benzyl.

15. (Withdrawn) The catalyst of claim 13, wherein R^{11} is -CF_3.

16. (Withdrawn) The catalyst of claim 14, wherein M is Zr; R^1 and R^3 are -$C(CH_3)_3$; R^2 and R^4-R^{11} are -H; X is -$CH_2(C_6H_5)$; and n is 0.

17. (Withdrawn) The catalyst of claim 14, wherein M is Zr; R^1 and R^3 are -$C(CH_3)_3$; R^2 and R^4-R^{11} are -H; X is -Cl; n is 1; and Y is -tetrahydrofuran.

18. (Withdrawn) The catalyst of claim 14, wherein M is Zr; R^1 and R^3 are -$C(CH_3)_3$; R^9 and R^{11} are -CF_3; R^2, R^4-R^8 and R^{10} are -H; X is -$CH_2(C_6H_5)$; and n is 0.

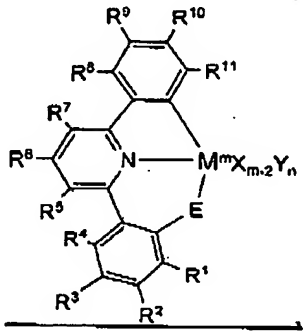
19. (Withdrawn) The catalyst of claim 14, wherein M is Ti; R^1 and R^3 are -$C(CH_3)_3$; R^9 and R^{11} are -CF_3; R^2, R^4-R^8 and R^{10} are -H; X is -$CH_2(C_6H_5)$; and n is 0.

20. (Withdrawn) The catalyst of claim 14, wherein M is Zr; R^1 and R^3 are -$C(CH_3)_3$; R^9 is -CF_3; R^2, R^4-R^8 and R^{10}-R^{11} are -H; X is -$CH_2(C_6H_5)$; and n is 0.

21. (Withdrawn) The catalyst of claim 14, wherein M is Zr; R^1 and R^3 are -$C(CH_3)_3$; R^9 is -CF_3; R^{11} is -F; R^2, R^4-R^8 and R^{10} are -H; X is -Cl; n is 1; and Y is tetrahydrofuran.

22. (Currently Amended) An olefin polymerization catalyst system prepared from ~~the~~ a catalyst ~~of claim 12~~ and an activator,

wherein the catalyst is of formula:



wherein:

R^1–R^{11} are each independently -H, -halo, -NO_2, -CN, -$(C_1$-$C_{30})$hydrocarbyl, -O$(C_1$-$C_{30})$hydrocarbyl, -N$((C_1$-$C_{30})$hydrocarbyl$)_2$, -Si$((C_1$-$C_{30})$hydrocarbyl$)_3$, -$(C_1$-$C_{30})$heterohydrocarbyl, -aryl, -heteroaryl, each of which is unsubstituted or substituted with one or more -R^{12} groups; or two R^1–R^7 is joined to form a cyclic group;

each R^{12} is independently -halo, -NO_2, -CN, -$(C_1$-$C_{30})$hydrocarbyl, -O$(C_1$-$C_{30})$hydrocarbyl, -N$((C_1$-$C_{30})$hydrocarbyl$)_2$, -Si$((C_1$-$C_{30})$hydrocarbyl$)_3$, -$(C_1$-$C_{30})$heterohydrocarbyl, -aryl, or -heteroaryl;

E is a Group 16 element;

M is a metal selected from the group consisting of metallic Group 3 - Group 10 elements and the Lanthanide series elements;

m is the oxidation state of M;

X is R^1 excluding -H, wherein X is bonded to M;

Y is a neutral ligand datively bound to M; and

n is an integer ranging from 0 to 5.

23. (Currently Amended) The olefin polymerization catalyst system of claim 22, wherein the activator is selected from the group consisting of trimethylaluminum, triethylaluminum, tri-isobutylaluminum, tri-n-octylaluminum, methylaluminum dichloride, ethylaluminum dichloride, dimethylaluminum chloride, diethylaluminum chloride, aluminoxanes, ~~tetrakis(pentafluorophenyl)borate,~~ dimethylphenylammonium tetra(pentafluorophenyl)borate, trityl tetra(pentafluorophenyl)borate, tris(pentafluorophenyl)boron, tris(pentabromophenyl)boron, and mixtures thereof.

24. (Currently Amended) A method for polymerizing an olefin comprising contacting an olefin with the olefin polymerization catalyst system of claim ~~23~~ 22.

25. (Original) The method of claim 24, wherein the olefin is ethylene, propylene, 1-butene, 2-pentene, 1-hexene, 1-octene, styrene, 1,3-butadiene, norbornene, each of which may be substituted or unsubstituted, or mixtures thereof.

26. (Original) The method of claim 25, wherein the olefin is ethylene or 1-hexene.

27. (Withdrawn) The method of claim 24, wherein at least one of R^1-R^{11} is selected from the group consisting of -C(halide)$_3$, CH(halide)$_2$ and -CH$_2$(halide).

28. (New) The olefin polymerization catalyst system of claim 6, wherein M is titanium, zirconium or hafnium.

29. (New) The olefin polymerization catalyst system of claim 6, wherein X is halide, unsubstituted -(C_1-C_{30})hydrocarbyl or substituted -(C_1-C_{30})hydrocarbyl.

30. (New) The olefin polymerization catalyst system of claim 6, wherein X is benzyl.

31. (New) The olefin polymerization catalyst system of claim 6, wherein E is -O-.

32. (New) The olefin polymerization catalyst system of claim 22, wherein M is titanium, zirconium or hafnium.

33. (New) The olefin polymerization catalyst system of claim 22, wherein M is Ti or Zr; E is -O-; m is 4; n is 0 or 1; and X is halo, -(C_1-C_{30})hydrocarbyl or benzyl.

34. (New) The olefin polymerization catalyst system of claim 22, wherein R^{11} is $-CF_3$.

35. (New) The olefin polymerization catalyst system of claim 22, wherein M is Zr; R^1 and R^3 are $-C(CH_3)_3$; R^2 and R^4-R^{11} are -H; X is $-CH_2(C_6H_5)$; and n is 0.

36. (New) The olefin polymerization catalyst system of claim 22, wherein M is Zr; R^1 and R^3 are $-C(CH_3)_3$; R^2 and R^4-R^{11} are -H; X is -Cl; n is 1; and Y is -tetrahydrofuran.

37. (New) The olefin polymerization catalyst system of claim 22, wherein M is Zr; R^1 and R^3 are $-C(CH_3)_3$; R^9 and R^{11} are $-CF_3$; R^2, R^4-R^8 and R^{10} are -H; X is -$CH_2(C_6H_5)$; and n is 0.

38. (New) The olefin polymerization catalyst system of claim 22, wherein M is Ti; R^1 and R^3 are $-C(CH_3)_3$; R^9 and R^{11} are $-CF_3$; R^2, R^4-R^8 and R^{10} are -H; X is -$CH_2(C_6H_5)$; and n is 0.

39. (New) The olefin polymerization catalyst system of claim 22, wherein M is Zr; R^1 and R^3 are $-C(CH_3)_3$; R^9 is $-CF_3$; R^2, R^4-R^8 and R^{10}-R^{11} are -H; X is -$CH_2(C_6H_5)$; and n is 0.

40. (New) The olefin polymerization catalyst system of claim 22, wherein M is Zr; R^1 and R^3 are $-C(CH_3)_3$; R^9 is $-CF_3$; R^{11} is -F; R^2, R^4-R^8 and R^{10} are -H; X is -Cl; n is 1; and Y is tetrahydrofuran.

41. (New) The olefin polymerization catalyst system of claim 6, wherein at least one of R^1- R^7 and R^9 - R^{10} is selected from the group consisting of -C(halide)$_3$, CH(halide)$_2$ and -CH_2(halide).

42. (New) The olefin polymerization catalyst system of claim 22, wherein at least one of R^1-R^{11} is selected from the group consisting of -C(halide)$_3$, CH(halide)$_2$ and -CH_2(halide).